REMARKS

Favorable consideration of this Application as presently amended and in light of the following discussion is respectfully requested.

After entry of the foregoing Amendment, Claims 1, 3, 5-10, 21- 23, and 25-62 are pending in the present Application. Claims 2, 4, 11-20, and 24 have been canceled without prejudice or disclaimer. Claims 1, 5, 8, 9, 21-23, 25-53, and 56-61 have been amended to address cosmetic matters of form. More specifically, Claims 1, 5, 8, 9, 21-23, 25-53, and 56-61 have been amended to remove superfluous terminology from the claims, such as the term "static," and to clarify that certain claims reciting "code means" are not fashioned to invoke protection under 35 U.S.C. § 112, sixth paragraph. New Claim 62 has been added to recite Applicant's invention in apparatus format. Support for new Claim 62 can be found at least on page 19 of the specification. No new matter has been added.

By way of summary, the Official Action presents the following issues: the specification is objected to for allegedly failing to provide proper antecedent basis for the claimed subject matter; Claims 1, 3, 5-10, 21-23, and 25-61 stand rejected under 35 U.S.C. § 112, first paragraph; Claims 1, 3, 5, 8-10, 21-23, 25, 26, 29-40, 44-55, and 59-61 stand rejected under 35 U.S.C. § 103 as being unpatentable over De Maine et al. (U.S. Patent No. 3,656,178, hereinafter De Maine), and further in view of Cellier et al. (U.S. Patent No. 5,884,269, hereinafter Cellier); Claims 6, 7, 27, and 28 stand rejected under 35 U.S.C. §103 as being unpatentable over De Maine and Cellier as applied to Claims 5 and 26, respectively, and further in view of Shimizu et al. (U.S. Patent No. 6,772,343, hereinafter Shimizu); Claims 41, 42, 56, and 57 stand rejected under 35 U.S.C. § 103 as being unpatentable over De Maine and Cellier as applied to Claim 1, and further in view of *Weiss* (U.S. Patent No. 5,479,512).

Applicants thank Examiners Henning and Revak for the courtesy of an interview extended to the Applicant's representative on April 26, 2006. During the interview, the rejections noted in the outstanding Office Action were discussed. However, no agreement was reached pending the Examiner's further review and a response is filed. Comments presented during the interview are reiterated below.

OBJECTION TO THE SPECIFICATION/
REJECTION UNDER 35 U.S.C. § 112, FIRST PARAGRAPH

The outstanding Official Action has objected to the specification and has rejected Claims 1, 3, 5-10, 21-23, and 25-61 under 35 U.S.C. § 112 as failing to comply with the written description requirement. The Official Action contends that the claims recite subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the Application was filed, had possession of the claimed invention. Applicant respectfully traverse the rejection.

At the outset, Applicant wishes to address a statement made in the Interview Summary in which it was noted that the Applicant proposed amending the claims to "remove certain elements not covered by the specification."[1] As noted during the interview, Applicant has agreed to remove the term "static," as it seemed redundant in view of the terminology "index that is defined prior to receiving the input data string." As such, this terminology, was not removed to the claims in response to any lack of support, but simply for clarification purposes.

With regard to the specific objections/rejections, and as noted in the interview, Applicant's specification describes multiple embodiments in which an input data string is encrypted in cooperation with a control code index. More specifically, a control code index,

[1] Interview Summary at page 3.

such as is shown in Fig. 3 of the specification, is in place prior to the reception of an input data string for encrypting the input data string in accordance with a control code identified using the control code index. In some embodiments, the control code is selected based upon a data analysis (130), such as is shown in Fig. 1 and the accompanying discussion of this figure in the specification (*See* at least page 6). Namely, a frequency analysis may be performed for selecting the control code. On the other hand, the control code may be selected without analyzing the data. This embodiment is noted on page 18 of the specification. In this embodiment, the selection of the control code is independent of input data string characteristics.

Accordingly, Applicant respectfully submits that the language of the claims outlined in the Official Action of March 17, 2006 are fully supported by the specification, as outlined above.

Accordingly, Applicant respectfully requests that the objection to the specification and rejection of the claims under 35 U.S.C. § 112 be withdrawn.

REJECTION UNDER 35 U.S.C. § 103

The outstanding Official Action has rejected Claims 1, 3, 5, 8-10, 21-23, 25, 26, 29-40, 44-55, and 59-61 under 35 U.S.C. § 103 as being unpatentable over De Maine, in view of Cellier. The Official Action contends that De Maine discloses all of the Applicant's claim limitations, with the exception of a control code index. However, the Official Action cites Cellier as disclosing this more detailed aspect of the Applicant's invention and states that it would have been obvious to one skilled in the art at the time the invention was made to combine the cited references for arriving at the Applicant's claims. Applicant respectfully traverse the rejection.

Applicant's amended Claim1 recites, *inter alia*, a method for encrypting an input data string including a plurality of bits of binary data, including:

> . . . generating a control code associated with the determined order using the control code index, the values of the generated control code being independent of input data string specific characteristics;
> generating a position code by identifying positions of each of the 2^n different configurations of n bits in the input data string in accordance with the determined order. . .

De Maine describes four compression techniques (i) Slow Mode Type 1 compression, (ii) Slow Mode Type 2 compression, (iii) Fast Mode Type 1 compression, and (iv) Fast Mode Type 2 compression.

Turning first to the Slow Mode Type 1 compression and the Slow Mode Type 2 compression, both techniques begin with an initial analysis of the input data string. The input data string is scanned on a byte-by-byte basis.[2] A LEXICON table is provided with 256 byte positions where each byte position corresponds to one of the 256 different 8-bit configurations possible for a single byte of data. The LEXICON table is used to count the number of times that each of the different byte configurations appear in the scanned input data string. Those byte configurations that do not appear in the scanned input data string are designed as Type 1 codes and those byte configurations that are identified as appearing more than a certain number of times in the scanned input data string are designated as Type 2 codes.[3]

The Slow Mode Type 1 compression is performed first by analyzing the input data string for the presence of redundant multi-byte patterns. The identified redundant multi-byte patterns are deleted from the input data string and replaced with a Type 1 code that was identified during the initial analysis of the input data string. Each deleted multi-byte pattern

[2] De Maine at column 91, lines 47-65.
[3] De Maine at column 92, lines 5-13.

and the associated replacement Type 1 code are inserted at the beginning of the compressed data string. The Slow Type 1 compression is repeated until either all of the identified Type 1 codes have been utilized or until the process fails to achieve further compression.

The Slow Mode 2 compression is performed next on the output of the Slow Mode Type 1 compression and examines consecutive 256 byte string segments for the presence of each of the Type 2 codes identified during the initial analysis of the input data string. If a particular Type 2 code is found to appear multiple times in a string segment, a 256 bit map (32 bytes long) is generated identifying the specific locations of that Type 2 code within the 256 byte string segment. The redundant Type 2 code is deleted from the string segment and the string compressed to eliminate the spaces vacated by the deleted Type 2 code. The deleted Type 2 code and the 256 bit map are added to the compressed string segment.[4]

Both the Slow Mode Type 1 and the Slow Mode Type 2 compression techniques involve an analysis of specific characteristics of the input data string for generating Type 1 codes and Type 2 codes. More specifically, those byte configurations that are identified as not appearing in the input data string are designated Type 1 codes and those byte configurations that are identified as appearing more than a certain number of times within the input data string are designated as Type 2 codes.

In contrast, the values of the control codes in the control code index, as recited by the claims at issue, are selected to be independent of input data string specific characteristics. Furthermore, unlike the teachings of De Maine, where the LEXICON table defining the Type 1 codes and the Type 2 codes are generated on the fly as a component of the process, the

[4] De Maine at column 92, lines 31-46.

control codes in the control code index are defined prior to even receiving the input data string for encryption.[5]

Turning now to the Fast Mode Type 1 and the Fast Mode Type 2 compression techniques, both of these compression techniques involve the creation and use of a PCORDS table. The PCORDS table is a dynamic table that is created based on the historical analysis of the characteristics of previously compressed input data strings and is updated continuously based on the input data string characteristics of every new input data string received for compression.[6]

A first section of the dynamic PCORDS table, used in Fast Mode Type 1 compression, contains a listing of multi-byte patterns that are likely to occur in similar types of input data strings and a savings ratio associated with each multi-byte pattern to indicate the degree of compression achieved by the use of that multi-byte pattern. During Fast Mode of Type 1 compression, the received input data string is analyzed for the presence of each of the multi-byte patterns identified in the PCORDS table and the PCORDS table is dynamically updated to reflect the likelihood that the multi-byte patterns actually identified as being present in the received input data string are likely to occur in future input data strings.

A second section of the PCORDS table, used in Fast Mode Type 2 compression, contains a listing of Type 2 codes that are likely to occur in similar types of input data strings. During Fast Mode Type 2 compression, each string segment is analyzed for the presence of each of the Type 2 codes identified in the PCORDS table and the PCORDS table is

[5] Specification at Fig. 3.
[6] De Maine at column 96, lines 66-69.

dynamically updated to reflect the likelihood that the Type 2 codes actually identified as being present in the received input data string are likely to occur in future input data strings.[7]

De Maine describes a dynamic PCORDS table, containing multi-byte patterns for use in Type 1 compression and Type 2 codes where both the multi-byte patterns and the Type 2 codes are continuously updated based on the characteristics of each input data string received for processing. Conversely, the control code index, as recited by the claims at issue, includes control codes which are defined prior to even receiving an input data string. Furthermore, the values of the control codes in the control code index are selected to be independent of input data string specific characteristics.

Likewise, Cellier does not remedy the deficiency discussed above, as Cellier describes selecting a best table of Huffman codes on the basis of a minimum cost search. In other words, the specific Huffman coding is selected based upon which code will yield the most compact encoded representation.[8] Therefore, as neither De Maine, nor Cellier, alone, or in combination, disclose, or suggest, all of the features of Applicant's claims, Applicant respectfully requests that the rejection of Claims 1, 3, 5, 8-10, 21-23, 25, 26, 29-40, 44-55, and 59-61 under 35 U.S.C. § 103 be withdrawn.

The outstanding Official Action has rejected Claims 6, 7, 27, and 28 under 35 U.S.C. §103 as being unpatentable over De Maine and Cellier as applied to Claims 5 and 26, respectively, and further in view of Shimizu. The Official Action contends that De Maine and Cellier disclose all of the Applicant's claim limitations, with the exception of generating a random block size. However, the Official Action cites Shimizu as disclosing this more detailed aspect of the Applicant's invention and states that it would have been obvious to one

[7] De Maine at column 92, lines 46-50.
[8] Cellier at column 4, lines 46-64.

skilled in the art at the time the invention was made to combine the cited references for arriving at the Applicant's claims. Applicant respectfully traverses the rejection.

As neither De Maine, nor Cellier, alone, or in combination, disclose all of the features of the Applicant's amended claims, and as Shimizu does not remedy the deficiency discussed above, Applicant respectfully submits that a *prima facie* case of obviousness has not been presented.

Accordingly, Applicant respectfully requests that the rejection of Claims 6, 7, 27, and 28 under 35 U.S.C. § 103 be withdrawn.

The outstanding Official Action has rejected Claims 41, 42, 56, and 57 under 35 U.S.C. § 103 as being unpatentable over De Maine and Cellier as applied to Claim 1, and further in view of Weiss (U.S. Patent No. 5,479,512). The Official Action contends that De Maine and Cellier disclose all of the Applicant's claim limitations, with the exception of XORing coded data. However, the Official Action cites Weiss as disclosing this more detailed aspect of the Applicant's invention and states that it would have been obvious to one skilled in the art at the time the invention was made to combine the cited references for arriving at the Applicant's claims. Applicant respectfully traverses the rejection.

As neither De Maine, nor Cellier, alone, or in combination, disclose all of the features of the Applicant's amended claims, and as Weiss does not remedy the deficiency discussed above, Applicant respectfully submits that a *prima facie* case of obviousness has not been presented.

Accordingly, Applicant respectfully requests that the rejection of Claims 41, 42, 56, and 57 under 35 U.S.C. § 103 be withdrawn.

NEW CLAIM

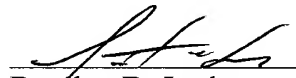
New Claim 62 recites substantially similar limitations to that discussed above, albeit in a device format. As such, Applicant submits that new Claim 62 is allowable over the cited art.

CONCLUSION

Consequently, in view of the foregoing amendment and remarks, it is respectfully submitted that the present Application, including Claims 1, 3, 5-10, 21- 23, and 25-62, is patently distinguished over the prior art, in condition for allowance, and such action is respectfully requested at an early date.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.



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